

## **ABSTRACT**

A method of manufacturing a self-aligned guard ring of a photo diode. The method includes defining a photo diode region on a semiconductor substrate and an isolation matter surrounding the photo diode region, forming a photo sensor in the photo diode region, covering a first mask on the photo sensor, forming a spacer around the first mask, covering a second mask on an edge of the isolation matter, and utilizing the first mask, the second mask, and the spacer to form a self-aligned guard ring surrounding the photo sensor.